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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,955	07/14/2003	Chae Kyu Jang	CU-3290 RJS	6419

26530 7590 05/23/2005

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EXAMINER

PAREKH, NITIN

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/618,955	Applicant(s) JANG ET AL	
	Examiner Nitin Parekh	Aft Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03-17-05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8-15-03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinsman (US Pat. Application Pub. 2002/0038442) in view of the admitted prior art (APA).

Regarding claims 1-6, Kinsman disclose a ball grid array (BGA) package comprising:

- a printed circuit board (PCB- 2 in Fig. 9) having bonding sites/fingers/pads
- an adhesive material (not numerically referenced in Fig. 9) being coated on the edges of the PCB (50/54 in section 0031)
- a sealing frame/sealing post (SF/SP-12/26 in Fig. 9) made of a barrier material including an insulating/non-conductive material (see sections 0030/0031) being adhered on the adhesive material/PCB, the SF/SP including a recess/lip/extrusion at an upper end (see 66 in Fig. 9; section 0034)
- a semiconductor chip having a plurality of bonding pads (52/56 in Fig. 8/9) adhered on the PCB, the chip being the edge-pad type chip

- a plurality of aluminum/metal wires (60 in Fig. 9) separately connecting bonding pads of the chip to the bonding sites/fingers of the PCB
- a sealing cover/cap (SC-62 in Fig. 9) made of an insulating/non-conductive material such as glass/quartz (see section 0032) being adhered on the extrusion/recessed portion of the SF/SP, the SC sealing the semiconductor chip
- the SC being adhered on the extrusion/recessed portion of the SF/SP using conventional adhesive material including an adhesive tape/low temperature thermoplastic tape (see sections 0031-0034), and
- a plurality of conductive elements/solder balls (see 74 in Fig. 13; section 0036) adhered to a lower side of the PCB

(Fig. 9; Fig. 8 and 13; sections 30-36 and 24-29).

Kinsman fails to teach the package being a test vehicle comprising a testing chip.

The APA teaches using conventional packages in a form of a test vehicle package to test semiconductor chips (see specification pages 1–3).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the BGA package being a test vehicle comprising the testing chip as taught by APA so that the testing and characterization capability can be enhanced in Kinsman's BGA.

Response to Arguments

3. Applicant's arguments filed on 03-17-05 have been fully considered but they are not persuasive.

A. Applicant contends that Kinsman's BGA in Fig. 2-3C and sections 0026-0030, do teach the recess/lip/extrusion at an upper end of the sealing post.

However, Kinsman clearly teaches the sealing frame/post having the recess/lip/extrusion at the upper end (see 66 in the structure 12/26 in Fig. 9; section 0034).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Parekh whose telephone number is 571-272-1663. The examiner can normally be reached on 09:00AM-05:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

NP

05-18-05



NITIN PAREKH

PRIMARY EXAMINER

TECHNOLOGY CENTER 2800